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ABSTRACT

This paper examines the belief that no more than half of the public school libraries in the state of Ohio are automated to any degree. The purpose of the research was to determine the degree and nature of automation at the public school libraries in Ohio. A written survey was mailed to 350 libraries that represented a randomized sample of the 3,809 public school libraries in Ohio. The survey measured the current level of automation and future plans for automation in these libraries. The key levels of automation that were important to the study were the automated circulation system, cataloging, the online public catalog (OPAC), the acquisition system, and serials control. Also important to public school libraries today and being measured was resource sharing through cooperative agreements such as INFOhio. The first part of the survey gathered data related to the degree and nature of the automation of the public school library, while the latter section of the questionnaire collected data concerning use of networks or cooperative agreements. The summary of the statistical results indicated the majority of the public school libraries were automated to some degree. Cover letters and the questionnaire are appended. (Contains 12 references and 24 tables.) (Author/MES)

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THE DEGREE AND NATURE TO WHICH PUBLIC SCHOOL LIBRAIRIES ARE AUTOMATED: A SURVEY OF PUBLIC SCHOOL LIBRARIES IN OHIO

A Master's Research Paper submitted to the
Kent State University School of Library
And Information Science
In partial fulfillment of the requirements
For the degree Master of Library and Information Science

By

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March 2001

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CHAPTER I

INTRODUCTION TO RESEARCH PROBLEM

Background

The American Association of School Librarians in the mission statement of *Information Power* (1988, 3) stresses providing "intellectual and physical access to information and ideas for a diverse population whose needs are changing rapidly." "You may have the best collection and program available, but if the books are just stuck on a shelf and people just wander in and out (without finding what they want), what good are they?" (Scott 1996, 20) Library automation can make providing the physical access to information easier. Although library automation is an enormous challenge, it is something that many school systems either have implemented in the recent past or are considering doing in the near future. According to *Information Power*, "all schools should actively plan for the automation of their records and procedures" (AASL 1988, 78).

The thought of automating all of the library media centers in any school district is daunting. Yet that is exactly what must be done, if one is to believe in the precepts of *Information Power*. The various areas of library automation with which this researcher is concerned are circulation, cataloging, serials, acquisitions and the OPAC. Because there are many facets to the automation of a media center it can be done all at once, or it can be done one step at a time, over a period of time. It is the investigator's opinion that most

media specialists would feel more comfortable with being eased into the automation project, rather than having it forced on them all at once.

Initially, the retrospective conversion, or the entering of all of the records of the current collection into an electronic format that is readable by the computer, is the biggest challenge faced by the media specialist. If there are no funds available to hire the retrospective conversion done for the media center, then the media specialist will have to enter all of the records into the computer herself. This process can take months, if done undisturbed, as most media centers have thousands of records that need to be entered. If it is at all financially possible to have the conversion done by an outside source, it should be considered. According to Caffarella (1996, 36), "the key to an efficient retrospective conversion is to match the International Standard Book Number (ISBN) and the Library of Congress Card Number (LCCN) of the holding against a master file of MARC records." Most librarians do not have the time to do this and still maintain a regular schedule of library hours for their students.

The media specialists will need to have the most extensive training of all of the people involved with the project. Knowledge of and adherence to bibliographic standards are vital in the online environment, because standards allow transfer of files or records from one automated system to another (Meghabghab 1994). "Standards provide consistency in bibliographic record formats, which enables users to access information more effectively and efficiently" (Meghabghab 1994, 229).

The MARC record is the standard record format used to store information in an OPAC or circulation system. The MARC record has a set method of recording the information. For example, the author's name is recorded in author field, tag 100. The

title is entered in the title field, tag 245. There is much to remember when using the MARC record. Although, most of the available programs give basic forms to fill in, it is still important to know which line in the form is the line that is desired, and how to duplicate that line if needed.

Although the MARC record is complex, it should not be modified for the school media center. According to Lighthall (1992, 46), "it is much easier to ignore information that is not required than to try and access what is not there!" If the MARC record is modified for the media center computer system, the school media specialist will not be able to use the records that frequently are available to come with books that are purchased through companies or jobbers. The media specialist would then have to do data entry for all the new materials each year, instead of simply downloading the records from a disc that the company sends with the books.

There are many different programs available for automation of library procedures. Libraries can choose to use stand-alone systems or integrated systems. If a library chooses a stand-alone system it is important to remember that it frequently can not be expanded. The integrated systems, on the other hand, are usually designed for expansion and use with networking and an online union catalog.

According to Olson (2000, 51) "a large and growing number of states offer electronic resources on a statewide basis, but few states have networked school library automation systems or created a school library union catalog the way INFOhio has." INFOhio, run by Theresa Fredericka, is the statewide school library network that is being developed in Ohio. "Its purpose is to tie together Ohio's public and private school libraries – all 4,679 of them – in a single online network." (Olson, 2000) Over nine-

hundred of the public and private schools in Ohio are currently buying their automation services from INFOhio, and thus are availing themselves of that single network. That still leaves well over 3,700 of them to buy the INFOhio package or to go with some other form of automation package.

Purpose of the study

The purpose of this research is to determine the degree and nature of automation at the public school libraries in Ohio. Additional objectives are to measure the current level of automation and future plans for automation in these libraries. The key levels of automation that are important to this study are the automated circulation system, cataloging, the online public catalog (OPAC), the acquisition system, and serials control. Also important to public school libraries today is resource sharing through cooperative agreements such as INFOhio.

Definitions of Terms

Automation, for this research, is defined as any part of the library procedures that are accomplished by use of a computer. These library procedures include circulation, cataloging, on-line catalog or OPAC, acquisitions, and serials. Word processing, accounting systems or other office management systems are not included in this definition as well as computers for student use, CD-ROMS or online reference databases.

Bibliographic standards are standards by which bibliographic information is organized, or arranged in specific ways. The description of a bibliographic item consists of information, including statement of responsibility, title, edition, publication information, physical description, and other items that identifies the item uniquely.

An **elementary school** is defined as a school containing any of the grades kindergarten through fifth grade.

A **high school** is a school containing any of the grades tenth through twelfth grade.

INFOhio is the statewide school library network that is being developed in Ohio with Theresa Fredericka as the director.

"Integrated systems are programs that emphasize networking and depend on developing a database utilizing the full MARC record" (Lighthall, 1992, 50).

A **jobber** is a company that provides books to libraries from various different publishers at discounted prices.

MARC record stands for MAchine Readable Catalog. It is a format used by the Library of Congress and many other libraries to make a uniform record of library collection into an electronic format that is readable by the computer.

A **middle / junior high school** is a school containing any of the grades seventh through eighth grade.

The term **OPAC** refers to an on-line public access catalog. It is equivalent to the card catalog of a library, except that it is on the computer.

Resource sharing includes but is not necessarily limited to union catalogs of materials (print and non-print), serials collections and interlibrary loans.

Stand-alone systems are programs for use with one computer, and they are usually for only one function, such as circulation. They are usually basic, reliable, and cheap, but not easily able to be expanded.

Limitations of the Study

The sample of subjects used in this study was based on a systematic randomization of public school libraries in Ohio. As the sample was limited to only public schools in Ohio, the findings can not necessarily be generalized to all public school libraries.

CHAPTER II

LITERATURE REVIEW

"Preparing for automation is an essential activity in the automation process" (Meghabghab 1997, 26). It has many different components. A few of them are becoming more knowledgeable of automation or reading extensively about automation, accessing the needs and wants of the libraries based on the goals, objectives, procedures, and functions of those libraries, and planning for the expenditure of the automation procedure. Hunting for literature concerning school library automation brings an interesting fact to the foreground, as seen in this quote by Bocher (1994, 1).

> Much of the literature that has been published on library automation focuses on large academic or public libraries that are implementing automated systems on large mainframes and minicomputers. There has not been a great effort by the library community to address the needs of smaller libraries, especially school libraries, which will be implementing automated systems operating on smaller microcomputers. This oversight is somewhat ironic considering that there are 84,500 K-12 schools. By comparison, there are only about 3,500 two- and four-year colleges and universities and approximately 2,000 public libraries and branches in communities larger than 50,000.

Research Studies

Keable, Williams, and Inkster (1993) did a study of 200 randomly selected Minnesota school library media centers to determine their direction taken towards automation. Utilizing an eight-page questionnaire, they had only 57% of their selected libraries responding. Of those responding, 53% (roughly 30% of the total sample

population) had automated circulation systems, and of that number, 38% (roughly 21% of the total sample population) also had an automated catalog.

Keable, Williams, and Inkster (1993) found that library media specialists automated circulation systems first, then the catalog, and finally reference services. Few of the systems were automated all at the same time because of the cost involved. That was nine years ago in Minnesota. Several years later Caffarella (1996, 33) agreed "most schools start the automation process with a circulation control system because it is easily understood and appears to require a relatively small investment."

Dania Bilal Meghabghab (1994) did a study of 497 randomly selected Georgia public school library media specialists to assess library automation practices, issues, and trends in library media centers and the knowledge of library media specialists about them. There were twenty questions asked on the survey. Before the final survey was mailed, it was field tested on a random sample of 45 library media specialists. The total random sample size was 30% of the population, which consisted of 1,589 primary, elementary, middle, junior high and senior high schools in the state of Georgia. The initial response was 41% with an additional 10% responding after a telephone follow-up, for a total of 51%. The return rate of the questionnaires was affected by the timing of the mailing, which was in May (one of the busiest times of the year for school media centers).

No correlation was found in that study (Meghabghab 1994) between the decision to automate and the collection size, the size of the school enrollment or the educational background or training of the library specialists. That study did, however, reveal that library media specialists had inadequate knowledge of library automation procedures,

bibliographic standards, and features and capabilities to consider when selecting an automated system.

Miller and Shontz (1994) stated that "in the October 1993 issue of School Library Journal, we published ... 'Expenditures for Resources in School Library Media Centers, FY 1991-92' (pp. 26-36)." For this 1994 study, they took 205 responses, which met their definition of high-tech schools, of the 918 responses they received in that study. Because that was only 22% of the total, no generalizations could be made. Most of this study was devoted to salaries, and spending in the surveyed schools.

One point in particular was important to my study: that forty percent of the high-tech schools are high schools, thirty-three percent were elementary schools, and eighteen percent were in middle schools. Nine percent were either K-8 or K-12 schools.

This study also shows that 100% of the high-tech libraries use the automation for preparation of overdues. They are beginning to use it for inventory (87%), cataloging (80%) and acquisitions (39%).

Case Studies

Daniels (1992) did an analysis of the media centers of Carmel Clay School System (CCSS) near Indianapolis, as they automated their collections in conjunction with the Carmel Clay Public Library (CCPL). CCSS at that time had 8,200 students in one high school, two junior high schools, and seven elementary schools. The high school had 1,900 students in grades 10-12, four librarians, two buildings and three sites. The community had 38,000 residents. A network was needed at the high school and would be helpful in the total picture.

They now "share both a materials database and a patron database. ...[their] system currently allows for the automation of circulation, statistics, overdues, intrasystem loans, and cataloging" (Daniels 1992, 108). All eleven schools use the OPAC but only the high school, the junior high schools and two of the elementary schools have their full circulation online.

After the retrospective conversion, the "resulting database needed to be 'cleaned up,' as there were false hits (i.e., a record for a different edition rather than an exact match), wrong call numbers, and inadequate cataloging" (Daniels 1992, 109). The book database of the first elementary school was compared to the CCPL database and was able to match up 40%. The high school's 24,000 volume collection only had a hit rate of 10%, which meant there were very few duplicates with the CCPL collection.

Unlike most school systems, the CCSS has a central processing center with a full-time cataloger. The cataloger matches newly purchased items against the existing database, if not there, then against OCLC, and if not there, does original cataloging for inputting the records.

Scott (1996) tells of her experience with automating her media center that served two schools and 1400 students in K-8. She weeded over 1500 books before the conversion process began. Data input was done by both Scott, a full-time aide, parent volunteers and her students, with Scott supervising the process with the Double Check feature on her program. The collection there had over 10,000 books plus more than 300 videotapes, which were input in 7 months. She did not initially input barcodes, only an item ID. She now has barcodes on order for the collection because she realizes how important they are and how much easier they make the task of checking out the materials.

In one year's time she took her library from no automation to what she considers full automation. She has a total of 9 computers with 4 of the computers running her networked library management system, 2 at the circulation desk, and 2 as patron search stations. They now use full MARC records.

Scott (1996) stresses planning, setting goals and then acting on them. She says to consider costs, but when it comes to computers, buy the biggest and best, the fastest, and the one with the most frills. That way when a library is ready to expand it will probably be able to upgrade with what it already has.

Library automation will remain a challenge to most school systems, whether they have implemented it in the recent past or are considering it in the future. Once the planning is done and implementation of the library automation has begun, everyone will discover that automation is an ongoing process. Because of new technologies, there will always be a need for improvements to enable access to information in the most efficient manner. As shown from the lack of literature available, more research needs to be done on the public school level concerning media center automation. Topics to consider for research could include the following: planning for automation, retrospective conversions, training personnel, circulation automation versus online catalog automation, or life after automation.

CHAPTER III

METHODOLOGY

This survey was conducted to collect data regarding the degree and nature of automation in public school libraries in Ohio. The purpose of the survey was to determine if indeed no more than half of the public school libraries in Ohio are automated to any degree.

A written questionnaire was mailed to a sample population of the 3752 public school libraries in Ohio. Three hundred and fifty primary, elementary, middle, junior high and senior high school libraries were selected, using systematic randomization, from an alphabetized list of the names of Ohio's public schools. The original list was obtained from the Ohio educational directory, 1998-1999 school year edition. Every eleventh library was selected for three repetitions then the tenth library was selected. This method was continued to the end of the list, resulting in 350 libraries being selected.

The survey was compiled based on a similar one conducted in Georgia. The survey instrument consisted of twenty-seven questions; six basic demographic questions, twenty Yes - No or check the answer questions, two very short answer questions, one which was in direct response to a Yes - No question and three open ended questions, all triggered by the response to a Yes - No question. A copy of the three page questionnaire is attached (Appendix C) along with both of the cover letters that were planned for use (Appendix A and B) introducing the purpose of the research to the recipient. This

questionnaire could most likely be completed in under 15 minutes. A stamped, self-addressed envelope was included for the librarian's convenience.

All of the surveys to be mailed in the first round had a unique code to indicate the intended recipient school. The returned surveys were tallied and records kept of which schools did not respond in the first round so that a follow-up could be made to only the schools not responding in the first round. The follow-up survey, which was identical to the original survey, was to be mailed to the non-responding schools one month after the first mailing, until at least 50% of the questionnaires were returned completed.

CHAPTER IV

ANALYSIS OF DATA

SURVEY RESPONSE

After only one mailing, 214 of the 350 (61.14%) questionnaires were returned. The first seven items on the questionnaire were questions requesting basic, demographic information, such as grade levels served, student population, collection size, number of full-time staff, MLS degree holding librarian, number of computers in the library, and degree of automated procedures.

The highest percentage of returned questionnaires was from elementary school libraries with 102 responses (47.7%) of the total return. The high school category came in second with 43 questionnaires returned (20.1%) return rate. The middle school / junior high school category was third with 31 questionnaires returned or a return rate of 14.5%. The other three divisions, middle / junior high / high school, elementary / middle school / junior high, and all grades kindergarten through twelfth grade had response rates of 16 (7.5 %), 12 (5.6 %), and 9 (4.2 %) respectively.

The responses to the student population question (see Table # 1) indicated that 11.2% had student populations under 250, 37.9% between 250 – 499, and 24.8 between 500 - 749. Thirteen point six percent of the schools had a student population between 750 – 1,000 and 11.7% of the schools had student populations of over 1,000. The collection sizes of the schools were indicated as 21% having fewer than 5,000 volumes,

45.3% having 5,000 – 9,999 volumes and 22.9% having 10,000 – 14,999 volumes. Eight point nine percent of the school libraries reported having over 15,000 volumes.

Table # 1: Student Population

		Frequency	Percent	Valid Percent	Cumulative Percent
	under 250	24	11.2	11.4	11.4
	250 - 499	80	37.4	37.9	49.3
Valid	500 - 749	53	24.8	25.1	74.4
	750 - 1000	29	13.6	13.7	88.2
	over 1000	25	11.7	11.8	100.0
	Total	211	98.6	100.0	
Missing System		3	1.4		
Total		214	100.0		

The total full-time staff question (see Table # 2) generated the following responses: 13.1 % of the schools reported having no full-time staff, 60.3% had 1 full-time staff member, and 17.8% had 2 full-time staff members. There were 3 full-time staff in 5.6 % of the school libraries and 4 full-time staff in 1.9% of the libraries. One library had 5 full-time staff, no libraries reported having 6 full-time staff and 7 or more full-time staff were reported in 1 (.5%) library.

Table # 2: Total Full-time Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
	0	28	13.1	13.1	13.1
	1	129	60.3	60.6	73.7
Valid	2	38	17.8	17.8	91.5
	3	12	5.6	5.6	97.2
	4	4	1.9	1.9	99.1
	5	1	0.5	0.5	99.5
	7 or more	1	0.5	0.5	100.0
	Total	213	99.5	100.0	
Missing System		1	0.5		
Total		214	100.0		

Only 26.2% of the librarians filling out the questionnaire held a Master's of Library Science (MLS) degree. Eight of the 158 non-MLS librarians responded that they possessed an alternative degree, a Master's of Education with Certification in Educational Library and Media. Thirteen others responded with varying other Master's degrees, with and without Media, Library or Technology specialization. Three had additional library media certification, either K – 12 or K – 8. Five others had varying Bachelor's degrees with some sort of Library, Media or Technology specialization. One had an LMS, and one had an EDS in Educational Media.

The number of computers in the responding school libraries ranged from zero to more than ten. Approximately one-third of the libraries reported having more than ten computers in their libraries. More than one-third of the libraries has 4 or fewer computers (See Table # 3).

Table #3: Number of Computers in Library

		Frequency	Percent	Valid Percent	Cumulative Percent
	0	11	5.1	5.1	5.1
	1 or 2	32	15	15	20.1
Valid	3 or 4	34	15.9	15.9	36
	5 or 6	28	13.1	13.1	49.1
	7 or 8	21	9.8	9.8	58.9
	9 or 10	17	7.9	7.9	66.8
	more than 10	71	33.2	33.2	100.0
	Total	214	100.0	100.0	

The majority of the responding libraries 150 or 70.1% indicated that their libraries were currently automated in some manner (or 42.85% of the total population). Of the elementary schools responding 59 or 39.6% indicated that they were automated in some

manner. The middle schools - junior high schools responded with 25 or 16.8%, and the high schools with 39 or 26.2%. The elementary / middle schools - junior high schools had 4 or 2.7%, the middle schools - junior high / high schools had 15 or 10.1% and the schools that contain all grades, kindergarten through twelfth grade had 7 or 4.7% (see Table #4).

Table #4: Grade Levels Served * Library Procedures Automated Cross-tabulation

			Library Procedures Automated		Total
			No	Yes	
Grade	Elementary	Count	43	59	102
Levels		% with Lib. Procedures Automated	67.2	39.6	47.9
Served		$ of Total	20.2	27.7	47.9
	Jr. High / middle	Count	6	25	31
		% with Lib. Procedures Automated	9.4	16.8	14.6
		$ of Total	2.8	11.7	14.6
	High school	Count	4	39	43
		% with Lib. Procedures Automated	6.3	26.2	20.2
		$ of Total	1.9	18.3	20.2
	Elementary / Jr.	Count	8	4	12
	High / middle	% with Lib. Procedures Automated	12.5	2.7	5.6
		$ of Total	3.8	1.9	5.6
	Jr. High / middle	Count	1	15	16
	/ High school	% with Lib. Procedures Automated	1.6	10.1	7.5
		$ of Total	0.5	7	7.5
	All / K - 12	Count	2	7	9
		% with Lib. Procedures Automated	3.1	4.7	4.2
		$ of Total	0.9	3.3	4.2
Total		Count	64	150	214
		% with Lib. Procedures Automated	100.0	100.0	100.0
		$ of Total	29.9	70.1	100.0

Combing the grade levels served, to reflect the possible combinations that would include each of the main categories, elementary, jr. high / middle school, and high school the following statistics emerged. All possible combinations that indicated some

elementary grade level served result in 53 non-automated libraries and 70 automated libraries. All possible combinations that indicated some jr. high / middle school grade level served result in 17 non-automated libraries and 51 automated libraries. All possible combinations that indicated some high school grade level served result in 7 non-automated libraries and 61 automated libraries.

Of all the information that was collected, the fact that there is still one library reporting that it does not even have a paper card catalog, much less a computerized card catalog is appalling. This same library is operated by only one parent volunteer.

STATISTICAL RESULTS

Questions eight through twenty were designed to illicit responses from the school librarians whose libraries were already automated. The majority of the respondents replied in the affirmative (70.1%) to the question whether or not their library was automated. One of the librarians responded that his or her school and library was from a system of 58 schools each with its own library. It was stated that of that system's 58 schools, only two of the school libraries were automated, one elementary school and one high school. It was further stated that those two schools had been automated in the mid-'80's, with no further attempts having been make to automate the remainder of the school system.

The earliest reported year of automation was 1975. The years 1997 – 2000 combined had the largest percentage (27%) for any four year span, which indicated the recent rapid growth of the use of computers in school libraries. Seven of the schools that

reported being automated did not know when their automation had taken place because the respondent was not the librarian or person in charge when the automation began. (See Table #5)

Table #5: Year Automation Begun

	Frequency	Percent	Valid Percent	Cumulative Percent
0	7	3.3	4.7	4.7
1975	1	.5	.7	5.3
1980	1	.5	.7	6.0
1983	2	.9	1.3	7.3
1985	3	1.4	2.0	9.3
1986	3	1.4	2.0	11.3
1987	5	2.3	3.3	14.7
1988	4	1.9	2.7	17.3
1990	11	5.1	7.3	24.7
1991	7	3.3	4.7	29.3
1992	6	2.8	4.0	33.3
1993	8	3.7	5.3	38.7
1994	8	3.7	5.3	44.0
1995	17	7.9	11.3	55.3
1996	9	4.2	6.0	61.3
1997	15	7.0	10.0	71.3
1998	12	5.6	8.0	79.3
1999	20	9.3	13.3	92.7
2000	11	5.1	7.3	100.0
Total automated	150	70.1	100.0	
Missing System	64	29.9		
Total	214	100.0		

In more than two thirds of the cases the automated libraries were run by non-MLS degreed persons. (see Table #6) There was no significant correlation between the librarian having his or her Master's of Library Science (MLS) degree and whether his or her library procedures were automated. (see Table #7)

Table #6: MLS Degree * Library Procedures Automated Cross-tabulation

		Library Procedures Automated		Total
		No	Yes	
MLS degree	No	51	107	158
	Yes	13	43	56
Total		64	150	214

Table #7: Correlation Between MLS Degree, Automation of Library Procedures, Collection Size and Student Population

		Library Procedures Automated	Collection Size	Student Population	MLS Degree
Library Procedures Automated	Pearson Correlation	1.000	.422**	.469**	0.087
	Sig. (2-tailed)	.	0.000	0.000	0.205
	N	214	210	211	214
Collection Size	Pearson Correlation	.422**	1.000	.628**	.169*
	Sig. (2-tailed)	0.000	.	0.000	0.014
	N	210	210	208	210
Student Population	Pearson Correlation	.469**	.628**	1.000	.264**
	Sig. (2-tailed)	0.000	0.000	.	0.000
	N	211	208	211	211
MLS Degree	Pearson Correlation	0.087	.169*	.264**	1.000
	Sig. (2-tailed)	0.205	0.014	0.000	.
	N	214	210	211	214

Using the Pearson correlation, Table #7 indicates that there was a significant correlation at the .01 level (.469) between the size of the student population and whether the school library was automated. There was a significant correlation at the .01 level (.422) between the collection size and whether the library was automated. There was a

significant correlation also at the .01 level between the librarian having his or her MLS degree and the size of the student population (.264). There was a significant correlation at the .05 level between the librarian having his or her MLS degree and the collection size (.169). Therefore, the larger the collection the more likely there was a librarian with an MLS.

Even though there were 150 librarians responding positively to the question concerning automation of their library, the two questions requiring a choice between a stand alone system or an integrated system generated some confusion. Four public school libraries that indicated they were automated did not respond to the questions concerning whether their automation was a stand-alone system or an integrated system. Thirty-four (21.8%) reported that their system was a stand alone system and the majority, 118 (75.6%) reported having integrated systems.

The parts of the automation system that were questioned for this survey were circulation, cataloging, serials, acquisitions, and the on-line public access catalog (OPAC). Of the 150 public school libraries that had previously responded positively to being automated, 147 responded to question #11. Circulation was the number one area to have been automated with 95.9%. (See Table #8) Cataloging came in second with a very close 95.2%. (See Table #9) Only one school reported that it did not have the cataloging procedures automated in addition to its circulation.

Table #8: Automated Circulation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	6	2.8	4.1	4,1
	Yes	141	65.9	95.9	100.0
	Total	147	68.7	100.0	
Missing	System	67	31.3		
Total		214	100.0		

Table #9: Automated Cataloging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	7	3.3	4.8	4.8
	Yes	141	65.4	95.2	100.0
	Total	147	68.7	100.0	
Missing	System	67	31.3		
Total		214	100.0		

Serials were automated in only 13.1 % of the school libraries, while acquisitions were automated in 14 % of the libraries. The automated OPAC was in use in roughly 2/3 (67.3%) of the libraries. (see Tables #10, #11, and #12)

Table #10: Automated Serials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	119	55.6	81.0	81.0
	Yes	28	13.1	19.0	100.0
	Total	147	68.7	100.0	
Missing	System	67	31.3		
Total		214	100.0		

Table #11: Automated Acquisitions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	117	54.7	79.6	79.6
	Yes	30	14.0	20.4	100.0
	Total	147	68.7	100.0	
Missing	System	67	31.3		
Total		214	100.0		

Table #12: Automated OPAC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	48	22.4	32.7	32.7
	Yes	99	46.3	67.3	100.0
	Total	147	68.7	100.0	
Missing	System	67	31.3		
Total		214	100.0		

In response to the questions concerning whether the automation for the library's procedures was done all at once, 85 libraries responded that their library automation was done all at once. Sixty-four said that they were still in the process of automating, or still hoped to add additional aspects to their automation system. Lack of availability of funding was the only mentioned reason for not having done all of the automation at one time.

One hundred forty of the surveyed libraries responded to the prior training question. Only 12.9% of the respondents had no computer training of the program to be used prior to beginning the automation of their library. Forty-five percent of the schools had vendor training sessions, either on site or at the vendor's location. Thirty percent

learned how to perform their automation procedures from other staff members who had been trained by the vendor. Twenty-seven point one percent had training from other staff who had learned the procedures on their own. Several of the schools responded positively to more than one of these selections. There was the possibility of training from more than one source.

Of the 27.1% stating some other type of training prior to the completion of the automation of their library, the responces varied widely. Training from INFOhio, MultiLis or A-site personnel was indicated by 34 of the respondents. The other responses ranged from a two hour training session by the vendor, user group instruction, workshops, one day training sessions, reading manuals, to accessing professional readings. Other responses included previous experience in other libraries, and updates from the provider.

One hundred forty-four of the surveyed librarians responded to the post training question. Ten point four percent of the librarians responded that they had no post automation training for the program or automation system installed. Post automation training was fairly evenly spread between vendor (39.6%), staff trained by the vendor (31.9%) and staff who learned the procedures on their own (30.6%).

Twenty-four point three percent said that they had some other type of post automation training. Among the responses given for other training were most of the ones from the previous section. In addition to those responses were two additional indications that had several librarians indicate this as their other training, vendor listserv and calling customer support or technical support.

One hundred thirty-five of the one hundred fifty automated schools responded to the question related to comfort. Eighty-two point two percent of the respondents said that they felt comfortable with the automation of their library as it was being implemented.

Questions seventeen through twenty related to the retrospective conversion of records for the library. Of the responding libraries that were automated 108 or 75.5% had their retrospective conversion done by an outside paid source. (see Table #13) One

Table #13: Retrospective Conversion Done by Outside Paid Sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	35	16.4	24.5	24.5
	Yes	108	50.5	75.5	100.0
	Total	143	66.8	100.0	
Missing	System	71	33.2		
Total		214	100.0		

Table #14: Retrospective Conversion Done by Vendor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	30	14	22.2	22.2
	Yes	105	49.1	77.8	100.0
	Total	135	63.1	100.0	
Missing	System	79	36.9		
Total		214	100.0		

hundred and five of the libraries (77.8%) said that a vendor performed their retrospective conversion and 24.3% said that the librarian performed it. (see Tables #14 and #15) This question could also be answered with more than one choice.

Table #15: Retrospective Conversion Done by Librarian

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	103	48.1	75.7	75.7
	Yes	33	15.4	24.3	100.0
	Total	136	63.6	100.0	
Missing	System	78	36.4		
Total		214	100.0		

Sixty-five point two percent of the libraries had some part of the retrospective conversion done during the school year. Of those answering yes to that question only 19.4% said that their library was closed during the conversion. Many replied in a side note that they had no circulation of materials during the conversion, but that they were open for student research, leisure reading, classroom usage, and/or story time, etc. (see Tables #16 and #17)

Table #16: Retrospective Conversion Done During School Year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	48	22.4	34.8	34.8
	Yes	90	42.1	65.2	100.0
	Total	138	64.5	100.0	
Missing	System	76	35.5		
Total		214	100.0		

Table #17: Library Closed During Retrospective Conversion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	75	35	80.6	80.6
	Yes	18	8.4	19.4	100.0
	Total	93	43.5	100.0	
Missing	System	121	56.5		
Total		214	100.0		

Eighty nine libraries mentioned the name of the vendor involved in their retrospective conversion. The top three companies represented were Brodart with 42 (19.6%), Follett with 21 (9.8%), and Winnebago with 16 (7.5%) in that order. (see Table #18)

Table #18: Name of Vendor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		116	54.2	54.2	54.2
	0	9	4.2	4.2	58.4
	Ameritech	1	0.5	0.5	58.9
	Athena (Catalog Card Co.)	1	0.5	0.5	59.3
	Brodart	42	19.6	19.6	79.0
	Catalog Card Co.	1	0.5	0.5	79.4
	Demco	1	0.5	0.5	79.9
	Follett	21	9.8	9.8	89.7
	Follett, Brodart	1	0.5	0.5	90.2
	Follett, Catalog Card Co.	1	0.5	0.5	90.7
	Gateway	1	0.5	0.5	91.1
	INFOhio	1	0.5	0.5	91.6
	LiraryPro	1	0.5	0.5	92.1
	SIRS	1	0.5	0.5	92.5
	Winnebago	16	7.5	7.5	100.0
	Total	214	100.0	100.0	

The questions numbered twenty-one through twenty-four concerned the MARC record. The majority of the libraries, 156, (72.9%) responded that they used the MARC record. One hundred forty-nine libraries (70.3%) used MARC records provided by outside sources. The question concerning modifying the MARC record in some mannner had 40.8% admitting that they had modified the MARC record in some way to suit their school library or student population. A large majority, 171 (80.7%) of the librarians indicated that they created their own original cataloguing for materials when needed. Approximately four times as many cataloged their own records when needed as those who did not. (see Tables #19 through #23) . It did not seem to matter whether the librarian had an MLS degree or not, the percentages were still roughly four to one.

Table #19: Library Used MARC Records

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	58	27.1	27.1	27.1
	Yes	156	72.9	72.9	100.0
	Total	214	100.0	100.0	

Table #20: Library Used MARC Records Provided by Outside Sources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	63	29.4	29.7	29.7
	Yes	149	69.6	70.3	100.0
	Total	212	99.1	100.0	
Missing	System	2	0.9		
Total		214	100.0		

Table #21: Library Modified MARC Record to Suit Library

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	126	58.9	59.2	59.2
	Yes	87	40.7	40.8	100.0
	Total	213	99.5	100.0	
Missing	System	1	0.5		
Total		214	100.0		

Table #22: Library Did Original Cataloging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	41	19.2	19.3	19.3
	Yes	171	79.9	80.7	100.0
	Total	212	99.1	100.0	
Missing	System	2	0.9		
Total		214	100.0		

Table #23: MLS Degree * Did Cataloging Cross-tabulation

		Own Cataloging		Total
		No	Yes	
MLS Degree	No	29	127	156
	Yes	12	44	56
Total		41	171	212

There was an even split 28 – 28 of the non-MLS degreed librarians modifying the MARC record. The MLS degree holders almost two to one did not modify the MARC record for their library. (see Table #24)

Table #24: MLS Degree * Modified MARC Records Cross-tabulation

		Modifies MARC record		Total
		No	Yes	
MLS Degree	No	98	59	157
	Yes	28	28	56
Total		126	87	213

Eighty-nine point seven percent of the libraries indicated that they were connected to the Internet in some way whether through an OPAC or simply having computers with Internet access available in their libraries. One hundred thirty-seven (64%) of the libraries responded that they were a member of an online network. Some of those indicated in a side note that their network was only district wide. Others said that they wished that they were able to network even if only within their own school district.

One hundred forty-two (67.9%) indicated an affiliation with INFOhio either as a member or simply as a user of the "free" services provided to school libraries in Ohio by INFOhio. Some of the reasons given for affiliation with INFOhio included continuous training, free or affordable resources, support services, record keeping and networking. Other reasons included interlibrary loan, the availability of current information, funding for automation or grant money, the union catalog and the fact that INFOhio is working towards statewide resource sharing.

Reasons given for non-affiliation with INFOhio include that it (INFOhio) was too expensive, it was not user friendly, and that the school systems's automation was in place before INFOhio was in place. Additional concerns that were noted were that INFOhio would not be able to meet the needs of the school system, and that INFOhio insists on the

school using the INFOhio DA-site even when the school district has the capability to manage the automation site themselves.

CHAPTER V

CONCLUSIONS

To summarize the statistical results, it can be concluded that the majority of the librarians were comfortable with the way their automation procedures were implemented. This was the case with both those librarians whose automation was done all at once, and those librarians whose automation was an on-going process.

As was noted by Keable, Williams, and Inkster (1993) the automated circulation system was the first part of the library procedures to be automated. Almost 96% of the automated libraries reported that their circulation was automated and all but one of those also had their cataloging automated.

The retrospective conversion was done by an outside paid source in 77.8% of the automated libraries. Most of the other libraries had the librarian and/or technician/aide doing the conversion. Sixty five percent of the automated libraries had their retrospective conversions done during the school year. Forty six point eight percent of the libraries had their conversions done at a time when there were no students in the library. Most of the librarians responded in a side comment that they offered no circulation of materials while the conversion was being done.

The bibliographic standard is vital in an online world. It provides uniform information about materials, such as title, author, subject headings, and call number. While 72.9% of the librarians reported using the MARC record, 40.8% reported

modifying it in some manner to suit their clientele. Using a modified MARC record can lead to problems when trying to import MARC records from other sources. A modified MARC record would have to be input each time for each material. Using the provided MARC record simplifies record keeping and uses the automation system to its best advantage.

The majority of the automation systems used were integrated systems (75.6%) as opposed to stand alone systems. This reflects good planning on the part of the system administrators, as integrated systems can more readily be expanded to accommodate changes and additions of newer equipment and programs. Stand alone systems quite frequently do not have expansion capabilities. This then, in the end, will save the district money on upgrading the automation system when it becomes necessary.

Only 56 (26.2%) of the librarians responding had their MLS degree. This did not seem to have any bearing on the library being automated or not. Thirty one others had some additional library education, ranging from undergraduate work to Master's degrees in Educational Library and Media. All total, slightly over 40% of the librarians had some type of degree or education concerning library training.

The purpose of the survey was to determine if indeed no more than half of the public school libraries in Ohio are automated to any degree. This researcher found that the majority of the respondents (slightly over 70%) had some degree of automation in their public school library.

Follow-up studies should be conducted to continue to monitor the degree and nature of automation in the public school libraries. It would be interesting to note for which specific tasks the librarians use their automated systems. Are they used for

inventory, fine preparation, newsletters announcing new materials generated from the database, or any other possible uses not questioned in this survey. Additional topics to consider for research could include the following: planning for automation, retrospective conversions, training personnel, stand alone systems versus integrated systems, or life after automation.

APPENDIX A

Cover letter for survey

Re: The Degree and Nature to Which Public School Libraries Are Automated: A Survey of Public School Libraries in Ohio.

September 15, 2000

Dear Librarian,

I am a graduate student in the School of Library and Information Science at Kent State University. As part of the requirements for my master's degree, I am conducting a study about the degree and nature to which Ohio public school libraries are automated. The enclosed questionnaire elicits information that will help support my theory that the majority of public school libraries in Ohio are not yet automated. This information would be useful to both theorists and practitioners in the field of library and information science.

Confidentiality and anonymity are guaranteed, as you do not need to sign your name to individual questionnaires: only the investigator has access to the survey data. There is no penalty of any kind if you should choose to not participate in this study or if you would withdraw from participation at any time. While your cooperation is essential to the success of this study, it is, of course, voluntary. A copy of the results will be available upon request.

If you have any further questions, please contact me at (330) 630-9606, Dr. Thomas Froehlich, my research advisor at (330) 672-2782 or Dr. Walter Adams, Vice Provost and Dean for Research and Graduate Studies at (330) 672-2851.

Thank you very much for your cooperation; it is sincerely appreciated. You may return the questionnaire in the enclosed self-addressed stamped envelope to me at the address below.

Sincerely,

Elizabeth Meckler
Graduate Student
707 Senn Dr.
Tallmadge, Ohio 44278

APPENDIX B

Cover letter for survey

Re: The Degree and Nature to Which Public School Libraries Are Automated: A Survey of Public School Libraries in Ohio.

October 15, 2000

Dear Librarian,

Last month I mailed a survey to your library as part of the requirements for my master of library science degree at Kent State University. I am conducting a study about the degree and nature to which Ohio public school libraries are automated. The enclosed questionnaire elicits information that will help support my theory that the majority of public school libraries in Ohio are not yet automated. This information would be useful to both theorists and practitioners in the field of library and information science. To date, I have not received the required 175 completed surveys necessary for compilation of my data. If you have recently returned the survey, please disregard this follow-up letter.

Confidentiality and anonymity are guaranteed, as you do not need to sign your name to individual questionnaires: only the investigator has access to the survey data. There is no penalty of any kind if you should choose to not participate in this study or if you would withdraw from participation at any time. While your cooperation is essential to the success of this study, it is, of course, voluntary. A copy of the results will be available upon request.

If you have any further questions, please contact me at (330) 630-9606, Dr. Thomas Froehlich, my research advisor at (330) 672-2782 or Dr. Walter Adams, Vice Provost and Dean for Research and Graduate Studies at (330) 672-2851.

Thank you very much for your cooperation; it is sincerely appreciated. You may return the questionnaire in the enclosed self-addressed stamped envelope to me at the address below.

Sincerely,

Elizabeth Meckler
Graduate Student
707 Senn Dr.
Tallmadge, Ohio 44278

APPENDIX C

The Degree and Nature to Which Public School Libraries Are Automated: A Survey of Public School Libraries in Ohio.

1. Does the person filling out this survey have an MLS degree?
   Yes _____ No _____

2. Approximate student population in your school.
   Under 250 _____ 250-499 _____ 500-749 _____
   750-1000 _____ Over 1000 _____

3. Approximate collection size of your library.
   Under 5000 volumes _____ 5000-9999 volumes _____
   10,000-14999 volumes _____ Over 15000 volumes _____

4. Total number of full-time staff in your library.
   0 _____ 1 _____ 2 _____ 3 _____
   4 _____ 5 _____ 6 _____ 7 + _____

5. Grade levels served by this library (check all that apply).
   K _____ 1 _____ 2 _____ 3 _____ 4 _____
   5 _____ 6 _____ 7 _____ 8 _____ 9 _____
   10 _____ 11 _____ 12 _____

6. How many computers do you currently have in your library?
   0 _____ 1 - 2 _____ 3 - 4 _____ 5 - 6 _____
   7 - 8 _____ 9 – 10 _____ more than 10 _____

7. Are your library procedures automated in any way?
   Yes _____ No _____

If your answer to question # 7 is "No" skip to question # 21 and continue answering the survey, if your answer is "Yes" please continue with the following questions.

8. In what year was the process of automation begun in your library?
   _____

9. Is your automated library system a stand-alone system?
   Yes _____ No _____

10. Is your automated library system an integrated system?
    Yes _____ No _____

11. What parts of your library are automated?
    Circulation _____ Cataloging _____ Serials _____
    Acquisitions _____ OPAC (online public catalog) _____

12. Were all parts of the automation of your library done all at once?
Yes _____ No _____

13. Are you still in the process of automating parts of your procedures?
Yes _____ No _____

14. What kind of training did you and/or your staff receive prior to automation?
Instruction by vendor . . . . . _____
Instruction by library staff trained by vendor . . . . _____
Instruction by library staff who learned procedures on their own _____
None _____
Other _____
_____

15. What kind of training did you and/or your staff receive after the automation?
Instruction by vendor . . . . . _____
Instruction by library staff trained by vendor . . . . _____
Instruction by library staff who learned procedures on their own _____
None _____
Other _____
_____

16. Were you comfortable with the automation procedure as it was being implemented in your library?
Yes _____ No _____

17. Did your library have the retrospective conversion done by an outside paid source?
Yes _____ No _____

18. Who did your retrospective conversion?
Vendor _____ (Which vendor?) _____
Librarian _____ Parent volunteers _____ Library Technician _____
Other _____

19. Was the retrospective conversion done during the school year?
Yes _____ No _____

20. If you answered "yes" to the previous question, was your library closed during the retrospective conversion?
Yes _____ No _____

21. Does your library use MARC records?
Yes _____ No _____

22. Does your library use MARC records provided to you by outside sources?
Yes _____ No _____

23. Does your library create its own cataloging records when needed?
Yes _____ No _____

24. Has your library modified the MARC record in any way to better serve your library patrons?
Yes _____ No _____

25. Is your library connected to the Internet?
Yes _____ No _____

26. Is your library a member of an online network?
Yes _____ No _____

27. Is your library affiliated with INFOhio?
Yes _____ No _____
Why or why not?
_____
_____
_____
_____

THANK YOU FOR YOUR COOPERATION. PLEASE RETURN YOUR QUESTIONNAIRE TO:

Elizabeth M. Meckler
707 Senn Dr.
Tallmadge, Ohio 44278

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